AUTOMATED EXPANSION PLANNING FOR DISTRIBUTION PRICING

• Presentation Overview
  – Background.
  – Objectives.
  – Methodology behind the developed software application.
  – User interface, performance and results.
  – Conclusions.
Project Overview

- SCADA Readings
  - Half-Hourly Data Cleansing
  - Demand Forecasting
  - Expansion Planning & Pricing
    - Automated Expansion Planning (AEP)
      - Marginal DUoS Charges
        - Pricing Tool
    - Manual Reinforcements
      - Compliance with Standards
      - Post-Fault Controls
      - Network Bottlenecks

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Overview

• Two planning strategies – ’actual’ and ‘predictive’.
• Different operating regimes and loading conditions.
• Different cost calculations.

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Network Modifications
Application interface and performance

• Drive expansion planning options through a user interface.
• Networks over 3000 nodes and 4000 branches.
• Less than 2 seconds per reinforcements.
• 20 minutes for a planning period of 20 years.
• Predictive and actual strategies give different results.

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Conclusions

• First-pass security assessment.
• Automatic expansion planning procedure important for the calculation of DNUoSC.